

**Amendments to the Claims:**

This listing of claims will replace the listing of claims as pending in the present application:

**Listing of Claims:**

Claim 1 (original): An electrochemical flow monitoring device, comprising a microfluidic system comprising at least one covered microchannel having an inlet and an outlet;  
means for applying a pressure difference between the inlet and the outlet of said microfluidic system such as to generate a flow of solution within said covered microchannel;  
wherein the microfluidic system has at least one electrode for monitoring said flow of solution by measuring an electrochemical property of said solution.

Claim 2 (original): The device of claim 1, wherein said solution comprises a reporter molecule for monitoring said flow of solution by measuring said electrochemical property of said solution.

Claims 3-41 (canceled).